

WE CLAIM AS OUR INVENTION:

- 1 1) A microsampling device comprising:
 - 2 a substrate defining a microsampler chamber; and
 - 3 a cuvette window formed of silicon nitride.
- 1 2) The device of Claim 1 wherein the substrate is silicon.
- 1 3) The device of Claim 2 wherein the silicon substrate has a
 - 2 thickness of approximately 500 micrometers.
- 1 4) The device of Claim 1 wherein the silicon nitride window has
 - 2 a thickness of approximately 0.01 to 5 micrometers.
- 1 5) The device of Claim 1 wherein the chamber has a volume of
 - 2 less than 1 micrometer.

1 6) A method of constructing a cuvette window in the micro-sampler
2 chamber of a micro-sampling device, the method comprising

3 providing a silicon wafer having a top surface and a
4 bottom surface;

5 etching a patterned depression in the top surface of the
6 silicon wafer thereby defining the micro-sampler chamber;

7 depositing a silicon nitride film on the top surface of
8 the silicon wafer; and

9 etching a patterned depression in the bottom surface of
10 the silicon wafer and exposing the silicon nitride film forming
11 the window.

1 7) The method of Claim 6 wherein the silicon wafer has a
2 thickness of approximately 500 micrometers.

1 8) The method of Claim 6 wherein the silicon nitride film has a
2 thickness of approximately 0.01 to 5 micrometers.

1 9) A silicon device comprising:

2 a silicon substrate defining a cuvette; and

3 a cuvette window formed of silicon nitride.

1 10) The device of Claim 9 wherein the silicon nitride window has

2 a thickness of approximately 0.01 to 5 micrometers.

1 11)A method of constructing a window in the cuvette of a silicon
2 device, the method comprising

3 providing a silicon substrate having a top surface and a
4 bottom surface;

5 etching a patterned depression in the top surface of the
6 silicon wafer thereby defining the cuvette;

7 depositing a silicon nitride film on the top surface of
8 the silicon wafer; and

9 etching a patterned depression in the bottom surface of
10 the silicon wafer and exposing the silicon nitride film forming
11 the window.

1 12)The method of Claim 12 wherein the substrate is a silicon
2 wafer.

13)The method of Claim 12 wherein the silicon nitride film has a
thickness of approximately 0.01 to 5 micrometers.